The role of the SPC/FFA/PNA Data Collection Committee (DCC)

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Presentation Outline

- The history of data collection forms used in the fishery
- The establishment and role of the DCC
- Process of the DCC
- Strategic Plans and workplans
- Achievements against workplan
- Issues for 2024

History of data collection forms

Prior to 1995…

- Tuna fishery data collection forms were developed on an ad hoc basis
- … there was no control over the diverse formats of logsheets in use throughout the region …
  - 24 versions in the LL fishery
  - 14 versions in the P&L fishery
  - 18 versions in the purse seine fishery
- … there were no standard port sampling nor observer data collection forms …

Initiation

- In 1995, recognizing …
- …a need to minimise the number of forms…
- …a need to develop standardised tuna fishery data collection forms…
- …that SPC and FFA have a commitment to improve the quality, accuracy and timeliness of tuna fisheries information…
- … that information collected on forms is essential to the work programmes of SPC and FFA, which then feeds into advice and support to member countries,

- … the SPC/FFA Data Collection Committee (DCC) was established …

Establishment and role of the DCC

- Tuna Fisheries Data Collection Committee (DCC)
  - SPC, FFA and now PNAO are core members

  Formed in 1995
  - "to develop standardised tuna fishery data collection **forms**, to reduce the complexity of data collection, processing and analysis."

  Purpose (2016):
  - *"supports the sustainable management and economic development of tuna fisheries in the Pacific Region through the improvement of the **data standards, data processes and data quality** that underpin the science, compliance, and the provision of technical advice by the SPC, the FFA and the PNAO".*

  - recommends data collection Standards, Specifications and Procedures (SSPs) development for the implementation of monitoring tools in the regional tuna fisheries.

DCC Meetings

- Membership :
  - Primary membership of DCC is composed of the SPC, the FFA and the PNAO secretariats, relevant staff (involved in data collection, management and dissemination)
  - invited participants from member countries and territories
  - invited experts/consultants/service providers/NGOs/other agencies e.g. SPREP etc.
- Meet ~ once every two years (one week), with 'e-systems' suggested annually
- 1995 (DCC1) – inaugural meeting
- Then meetings in 1996, 1998, 2000, 2002, 2004, 2007, 2009, 2014, 2016*, 2018, 2022**
- Mini-DCC meetings reviewing observer fields in 2013 and artisanal data fields in 2014, two specific LL EM meetings in 2020
- **met twice in 2022, a DCC Planning Meeting and DCC12, renewed strategic plan
- Next meeting proposed for 3rd Q 2024

DCC Process

- During the DCC inter-session period, requests for new forms and form updates are compiled
- At DCC, each request is reviewed and accepted, where deemed appropriate
- Immediately after DCC, the forms are modified …
- The DCC report was formally adopted by Pacific Island Country and Territories (PICTs) member countries through the Forum Fisheries Committee (FFC) and the Heads of Fisheries (HOF) meetings, including latest forms, standards etc.
- Follow-up on the implementation of the latest versions of the DCC forms with each country is undertaken in the inter-session period.

REVISED: DEC 2004

SPC / FFA REGIONAL LONGLINE LOGSHEET

PAGE _____ OF _____

NAME OF VESSEL		FISHING PERMIT OR LICENCE NUMBER(S)	YEAR
NAME OF FISHING COMPANY	FFA REGIONAL REGISTER NUMBER	NAME OF AGENT IN PORT OF UNLOADING / PRIMARY TARGET SPECIES	TRIP NUMBER THIS YEAR
COUNTRY OF REGISTRATION	FFA TYPE APPROVED ALC (Y/N) ?	PORT OF DEPARTURE	DATE AND TIME OF DEPARTURE
REGISTRATION NUMBER IN COUNTRY OF REGISTRATION	INTERNATIONAL RADIO CALLSIGN	PORT OF UNLOADING	DATE AND TIME OF ARRIVAL IN PORT

- **ALL DATES AND TIMES MUST BE UTC / GMT**
- **ALL WEIGHTS MUST BE KILOGRAMS**

MONTH	DAY	ACTIVITY CODE	01:00 UTC OR SET POSITION				SET START TIME	NUMBER OF HOOKS	HOOKS BETWEEN FLOATS	ALBACORE			BIGEYE			YELLOWFIN			SHARK		STRIPED MARLIN		BLUE MARLIN		BLACK MARLIN		SWORDFISH		OTHER SPECIES		
			LATITUDE DDMM	N S	LONGITUDE DDDMM	E W				No RET	KG RET	No DISC	No RET	KG RET	No DISC	No RET	KG RET	No DISC	No RET	No DISC	No RET	KG RET	No RET	KG RET	No RET	KG RET	No RET	KG RET	NAME	No RET	KG RET
PAGE TOTAL																															
TRIP TOTAL																															

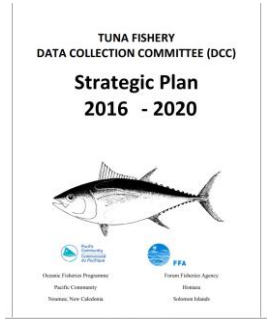
ACTIVITY CODES
1 A SET
2 A DAY AT SEA BUT NOT FISHED OR TRANSIT
3 TRANSIT
4 IN PORT - PLEASE SPECIFY

NAME OF CAPTAIN	SIGNATURE OF CAPTAIN	DATE

- The form version is on the top-left hand side.
- It shows the date the form was last reviewed/revised/amended/agreed to.
- Current forms are version 2018, reflecting movement away from hardcopy.

DCC10 (2016) First Strategy Meeting

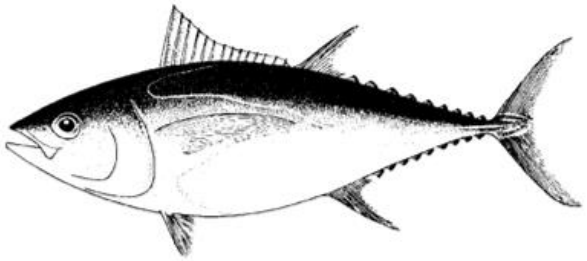
- Meeting was held to determine future role of the DCC because:
  - Regional environment: WCPFC formed and subsidiary IWGs established MSDF (ROP, ER&ER, TS)
  - ER and EM meant movement away from forms, new protocols for capturing data and QA.
  - Rapid development of electronic hardware and software, unfettered, non-standard products.
- DCC Strategic Plan (2016-2020) (DCC10, April 2016), assessed relevance and role of DCC:
  - Maintain regional relevance and role of DCC through **reporting and advice to HoF and FFC**.
  - Broadened mandate to **emerging technologies**, particularly electronic monitoring and electronic reporting.
  - Revising role to **define standards and processes**, review/advise on compatibility, duplication and overall efficiency of existing and new data collection tools.
  - Set standards for **PICTs in their interest**, beyond those agreed to at the Commission
- 2016-2020 Workplan prioritised progress of electronic systems according to four categories: **Data, Process, Interface, Quality** as Immediate, short term and medium term.


TUNA FISHERY
DATA COLLECTION COMMITTEE (DCC)
Strategic Plan
2016 - 2020

DCC Strategic Plan 2023-2027 &Workplan

TUNA FISHERY
DATA COLLECTION COMMITTEE (DCC)

Strategic Plan
2023- 2027



Oceanic Fisheries Programme
Pacific Community
Noumea, New Caledonia

Forum Fisheries Agency
Honiara
Solomon Islands

Office of the Parties to the Nauru Agreement (PNAO)

DCC12 DCC Strategic Plan 2023-2027

- Original Strategic Plan (2016-2020) had expired, priorities met or changed.
- DCC Strategic Plan 2023-2027 and workplan adopted

Roles and Responsibilities

- Define and establish data collection **fields**, appropriate protocols and best methods for their collection;
- Rationalise and **integrate** data collection methods;
- Develop and optimise data **quality assurance processes**;
- **Curate** current and past data collection formats and versions;
- Develop the data collection **framework** for emerging technologies, particularly electronic monitoring, and electronic reporting;
- Designate a custodian of **metadata** systems as a library;
- **Maintain** the existing paper-based framework for data collection for continuity, until completely superseded.

DCC 2023-2027 Workplan

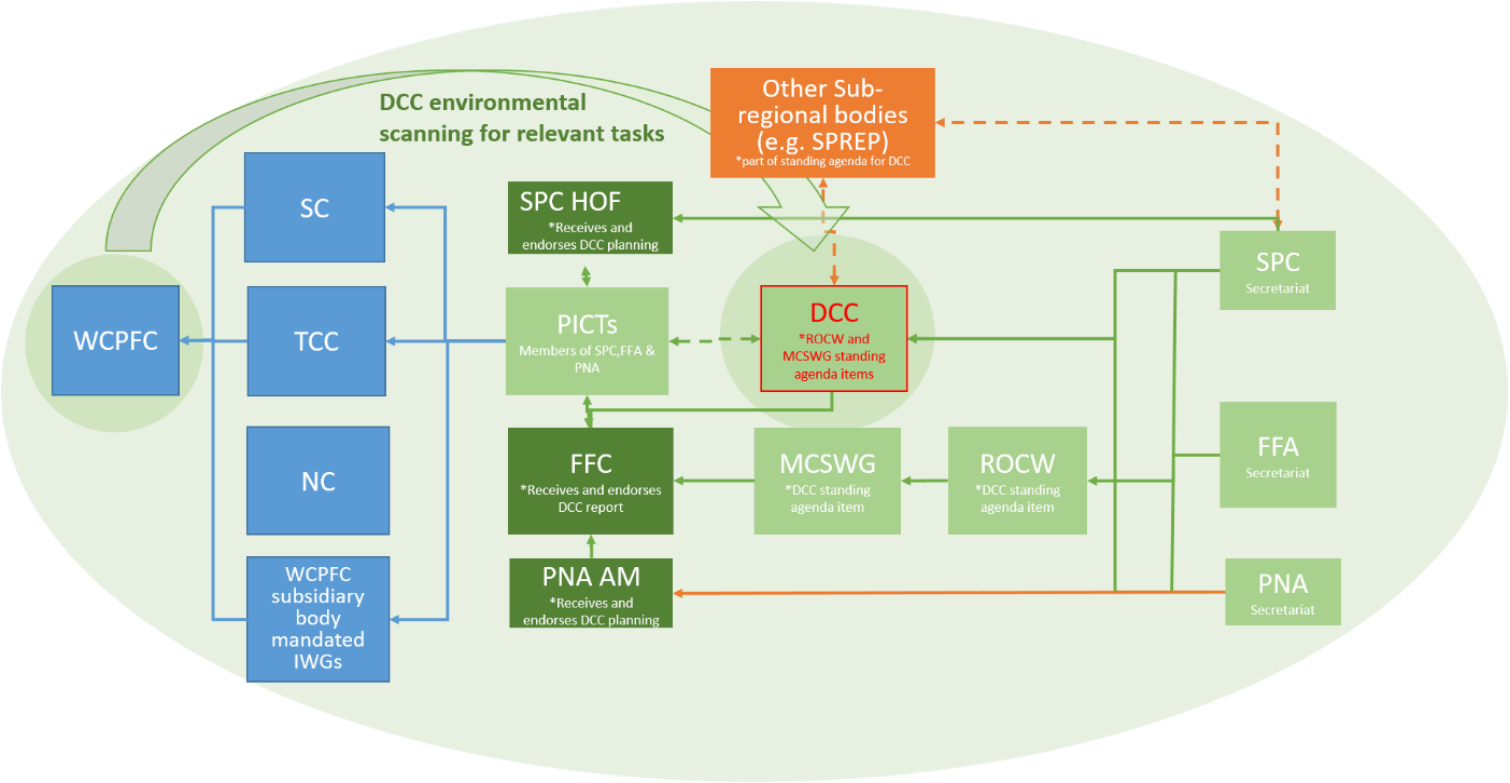
The work of the DCC is in response to **developing** data needs for science and management as well as in response to the **evolving** collection processes of fishery data. The Workplan is meant to be a **living** document.

The areas of focus of the DCC would respond to evolving needs, but practically its purpose was to respond to:

- Regional data requirements of WCPFC Scientific Committee, Technical and Compliance Committee, the Annual meetings, and the subsidiary WCPFC bodies.
- SPC HoF, FFC and PNA Annual meetings; and
- Requests of subsidiary bodies of SPC, FFA and PNA, e.g. PSM, CDS working groups.
- The current work areas listed in the Workplan were related back to the original SSPs in the EM longline SSPs*.

Where does the DCC fit in?

Schematic diagram of the relationship of DCC with the annual regional work programme with respect to fisheries. Note that this is focused on the DCC role and does not try to reflect all connections for other identified bodies. Legend: Blue - WCPFC processes; Green - FFA/SPC processes; Orange - sub-regional processes; Dashed (- - -) lines informal links; Solid (—) lines formal links



2023-2027 DCC WORKPLAN

Categories	Elements with reference numbers from the source document	Priority	Milestone	Source/request
3. Implementing Operational EM Specifications, Standards and Procedures (SSPs)	3.1. EM Records Analysis and Development of EM Data	**High**	mid 2024	SSP support
	3.1.1. EM records compatibility	**Medium**	2025	SSP support
	3.2. EM Quality Assurance Processes	**High**	mid 2024	SSP support
	a) EM Data Quality Review (verification) protocols	**High**	mid 2024	SSP support
	b) EM Data Quality Validation	**Medium**	2024	SSP support
	c) EM data quality reviews and audits	**Low**	2027	SSP support
	3.3. EM transmission, traceability and interoperability standards	**Medium**	2024	SSP support
	a) Standard codes, formats, and ontologies	**Medium**	2025	SSP support
	b) DCC minimum standards for EM Data transmission and storage in a machine-readable format (i.e. JSON, XML, or CSV).	**Medium**	2025	SSP support
	c) EM records metadata standards for storage, filing and retrieval	**Medium**	2025	SSP support
	d) Metadata standards for evidential Integrity and Chain of Custody procedures of EM records and EM data are regionally harmonised.	**Medium**	2025	SSP support
4. DCC's role in other monitoring data standards.	a) A review of longline transhipment monitoring standards	**High**	mid 2024	TS-IWG
	b) An assessment of the collection of the EM longline draft minimum data fields	**Medium**	2025	SPC
	c) Adjustments to e-logs for purse seine operations	**Medium**	2025	DCC Planning
	d) FAD log standards	**Medium**	2025	DCC Planning
	e) Revision and rationalisation of observer data fields, which should consider those required fields that can either be: i) assessed or verified through EM, or ii) accurately recorded by fishers.	**High**	2023	SPC
	f) Port sampling standards	**Medium**	2024	FFA- PMS/SPC
	g) Biological sampling	**Low**	2024	SPC
	4.1. EM LL beyond cameras (sensors, measuring fish, calibrating)	**Low**	2026	SSP support
	4.2 Electronic Reporting (ER) protocols	**High**	2023	DCC 2020
	4.2 ER Debriefing processes	**Low**	2025	DCC 2020
		Low	2023	
5. Longline Monitoring Coverage Levels		**High**	2024	SC17
6. Integrated Monitoring Systems Quality Assurance	6.1 Validation	**High**	2024+	DCC 2020
	6.1 Catch Documentation Schemes	**Low**	2024	FFA-CDS scanning
	6.2 Access to, and Dissemination of Data.	**Low**		SSP support

High Priority Areas

3.1 EM Records Analysis and Development of EM Data

Draft Minimum EM LL data fields were established at DCC 2020, a JSON formatted DCC Longline EM Minimum Data Fields Standard is developed and is being tested towards adoption.

3.2. EM Quality Assurance Processes

An EM module is now available in the TUFMAN2 regional fisheries database. Data Quality Checks are used as one facet of the Quality Assurance process. The protocols for the verification or review of a proportion of the EM data, as well as validation of the data through comparison with other sources e.g. logbook, unloadings etc. are yet to be agreed.

4 a) A review of longline transshipments monitoring standards

There are interim minimum data standards for transshipment observer in place, and monitoring using them began from April 2023. They are due to be reviewed by the IWG-ROP in late 2024.

4 e) Revision and rationalisation of observer data fields, which should consider those required fields that can be:

SPC has worked with WCPFC to revise the ROP data fields, these were tabled at the WCPFC19 annual meeting in 2024. They will be reviewed presumably at the ROP-IWG in 2024.

High Priority Areas (cont.)

Pacific Community
Communauté du Pacifique

4.2 Electronic Reporting (ER) protocols

- SPC has developed three ER applications. (OnBoard – elog app. OnShore – e-port sampling app. and OLLO – longline observer app.) PNA has developed iFIMs for purse seine observers to use.
- SPC have been training vessel operators, observers and port samplers in use of the relevant applications and training is continuing in country as the apps are adopted by members.
- An e-debriefing module is now available in Tufman2, allowing observer programmes to conduct a debriefing directly in Tufman2 for data uploaded via OLLO. A manual is planned to be published in 2024 for using this module.

4. Longline Monitoring Coverage Levels

- The new CMM2023-01 is an incentive for longline fleets to increase their monitoring coverage above 5% using a combination of observers and EM.

6.1 Validation

- TUFMAN2I integrates multiple sources of data, such as observers logsheets and unloadings and can facilitate cross-validation for Quality Assurance.

Issues for 2024

- **Longline Transhipment observer data fields** (WCPFC) from April 2023
  - Standardised protocols for the collection of the FC-1 and FC-2 form data have not been developed. e.g. the independent counting of fish by species.
  - Most programmes are not yet submitting transhipment monitoring data, a review of data in 2024.
  - IWG-ROP, in conjunction with the TW-IWG, to **review the longline transhipment fields** for observer collection by TCC20 (2024).
  - **ROP MSDF review –** removal of redundant, or non-independent fields**.**
  - **ERandEMWG6 LL EM SSPs –** modelled off FFA Members SSPs for LL EM.
  - **EM longline draft data field standards** – A review of the data found that many of the fields recommended by DCC11 in 2020 are not collected by current EM service provider*. New providers provide opportunity to assess.
  - **EM Longline Data Quality standards** – Adoption of proposed draft EM LL MSDF in JSON format.

EM Data collected

POTENTIAL COMPLIANCE EVENTS			
Potential Compliance event	Date and time of potential compliance issue	UTC Date and time (to nearest second) for each potential	Fields automatically generated by EM system and stored with the related potential compliance
	Latitude and longitude of compliance issue	GPS reading for the potential compliance issue	Fields automatically generated by EM system and stored with the related potential compliance
	Compliance category code	Category (code) for the potential compliance issue as **(See TABLE 2)**	EM Analyst declaration when a compliance event is identified on the video. There will be a list of The EM System will need to have a component that allows the EM Analyst to efficiently ○ At the relevant point in the video, the EM Analyst will SELECT the Potential Compliance event TOPIC option ○ Selecting this option will display the range of Compliance CATEGORIES and then the EM Analyst will select one of these ○ The range of potential compliance events under the selected CATEGORY will be displayed and the EM Analyst will ○ The EM Analyst will add any necessary comments related to this particular potential compliance event and on selecting the
	Compliance event type code	Specific Compliance Event under this category **(See Table**	
	Compliance note	Notes from the EM Analyst on each potential	EM Declaration. The EM analyst (sometimes in conjunction with compliance personnel) will

SETTING AND HAULING INFORMATION			
Setting and Hauling Information	Date & time start of SET	Date and time the first buoy enters the water to start the	**Auto-generated by the EM system from the float SET timestamping. Minimum resolution of position is 1/1000 of a minute.**
	Latitude and longitude of start of SET	GPS reading at time first buoy enters water	
	Date and time of end of SET	Date and time the last buoy enters the water	
	Latitude and longitude of end of SET	GPS reading at time last buoy enters water	
	Date and time of start of HAUL	Date and time the first buoy of the mainline is hauled	**Auto-generated by the EM system from the float HAUL timestamping. Minimum resolution of position is 1/1000 of a minute.**
	Latitude and longitude of start of HAUL	GPS reading at time first buoy is hauled from the water	
	Date and time of end of HAUL	Date and time the last buoy of the mainline is hauled	
	Latitude and longitude of end of HAUL	GPS reading at time last buoy is HAULED	
	Date and time stamp for each FLOAT SET	UTC Date and time (to nearest second) of each FLOAT SET	Generated by the EM Analyst declaration in the EM system. Analysis of this information usually takes 30-60 minutes per set. Potential to do this using technical enhancements in the future (i.e. RFID[1]s or other sensors on FLOATS). Minimum resolution is 1/1000 of a minute.
	Latitude and longitude of each FLOAT SET	GPS reading of each FLOAT SET (as recorded by EM equipment)	
	Date and time stamp for each FLOAT HAULED	UTC Date and time (to nearest second) of each FLOAT	Generated by the EM Analyst declaration in the EM system. Potential to do this using technical enhancements in the future (i.e. RFIDs or other sensors on FLOATS). These data are
	Latitude and longitude of each FLOAT HAULED	GPS reading of each FLOAT HAULED (as recorded by EM	
	Total number of baskets or floats	Number of baskets set; usually it is the same as the number of floats set minus	**With each float timestamped, the EM system should automatically calculate this.**
	Number of hooks between floats or number of hooks per basket	Number of hooks between floats	**PROTOCOL is to count hooks from first 3 baskets, middle 3 baskets and last 3 baskets and the average HOOKS per BASKET (successive floats) can then be determined.**
	Total number of hooks used in a set	Total number of hooks set, calculated by multiplying the number of baskets by number of hooks between floats	**EM system calculates total number of HOOKS SET, calculated by multiplying the number of baskets by number of hooks between floats**
	Bait species	At the set level record the bait species used. Should cater for more than one species.	**PROTOCOL is to review the BAIT used during the analyses conducted over the setting of the** **Pending further discussions if this field is to be required, then there would be an additional ACTION**
	Total amount of baskets, floats monitored by EM Analyst in a single HAUL	How many floats or baskets monitored by the EM Analyst	**EM System calculates total number of BASKETS monitored using the FLOAT HAUL TIMESTAMP data.**